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High Pressure Synergetic Consortium Overview

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High-pressure (HP) synchrotron radiation (SR) research has been regarded as one of the most impactful directions in physical science and a top priority in leading synchrotron facilities around the world. The integration of HP and SR may potentially lead to the accomplishment of grand challenges in various disciplines. Current HP-SR activities are conducted with the combination of dedicated HP-SR beamlines and widespread HP research at general-purpose SR beamlines. These activities are invaluable for the recent advances in high pressure research but still insufficient and ineffective for realizing the grand challenges. The integration of HP and SR would therefore require a special infrastructure to harness the two fast-moving giants and reach their full potential.

The recent established High Pressure Synergetic Consortium (HPSynC) at the Advanced Photon Source will focus on novel, high-reward, high-pressure synchrotron radiation science and technology that are very difficult and challenging to develop by synchrotron beamline personnel and user groups, and to make the novel high-impact science and technology available to general HP-SR users. This poster will give a broad overview of overall effort, focusing developing areas and science highlights from the achievement.